National and International Climate Change Context

California Climate Change Advisory Committee Meeting July 15, 2004 Sacramento, CA

Pierre H. duVair, Ph.D.
California Energy Commission
Climate Change Program

New England Governors and Eastern Canadian Premiers

New England Governors/Eastern Canadian Premiers

Climate Change Action Plan 2001

August 2001

Prepared by

The Committee on the Environment and
the Northeast International Committee on Energy
of the Conference of New England Governors and Eastern Canadian Premiers

Short-term Goal: 1990 emissions by 2010

Mid-term: 10% below 1990 by 2020

Long-term: 75-85% below current levels

State of Maine Codifies GHG Goal

In 2003, state legislators in Maine put GHG reduction goals in a statute, seeking a reduction to 1990 levels by 2010, an additional 10 percent cut by 2020, and a long-term reduction of at least 75 percent.

Oregon and Washington Passed GHG Emission Offset Laws

State of WA: New power plants seeking site certification and existing plants that increase production of CO_2 emissions by 15% will mitigate CO_2 emissions by making payments to organizations or projects that reduce air pollution. Payments required by Washington's Legislation are $1.60 per ton of CO_2 emissions by the power plants.

States Are Developing Action Plans

A BLUEPRINT FOR ACTION

Policy Options to Reduce Massachusetts' Contribution to Global Warming

MASSPIRG EDUCATION FUND
CLEAN WATER FUND

Spring 2004

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Massachusetts Climate Action Network: Marc Breslow

Numerous states have completed stakeholder processes to develop comprehensive climate action plans (e.g., MA, NY, CT, ME)

Regional Greenhouse Gas Initiative (RGGI)

April 2003, New York Governor Pataki wrote ten northeastern governors (six New England states, NJ, MD, DE, PA) to join New York in development of a regional CO_2 cap-and-trade program for the electric generating sector. Regional discussions began in September 2003 and will continue through 2004 with the goal of a final model rule by April 2005.

Nine Eastern States Participating

- Currently, nine states, including Connecticut, Delaware, Maine, Massachusetts, New Jersey, New Hampshire, New York, Rhode Island and Vermont, are participating in the RGGI effort.
- Maryland, District of Columbia, Pennsylvania, the Eastern Canadian Provinces and New Brunswick are observers in the process.

States Are Involved in Litigation

- **1999** – NGOs petitioned EPA to regulate GHG from mobile sources
- **August 2003** – EPA denied having authority to regulate GHG emissions
- **October 2003** – 12 states, plus cities & NGOs, appealed EPA's denial
- **States include**: CA, CT, IL, ME, MA, NJ, NM, NY, OR, RI, VT, and WA

President George W. Bush

February 14, 2002

"Addressing global climate change will require a sustained effort, over many generations. My approach recognizes that sustained economic growth is the solution, not the problem – because a nation that grows its economy is a nation that can afford investments in efficiency, new technologies, and a cleaner environment."

Federal GHG Intensity Approach

"I reaffirm America's commitment to the United Nations Framework Convention and its central goal, to stabilize atmospheric greenhouse gas concentrations at a level that will prevent dangerous human interference with the climate. Our immediate goal is to reduce America's greenhouse gas emissions relative to the size of our economy."

United States GHG Intensity Goal

"My administration is committed to cutting our nation's greenhouse gas intensity -- how much we emit per unit of economic activity -- by 18 percent over the next 10 years. This will set America on a path to slow the growth of our greenhouse gas emissions and, as science justifies, to stop and then reverse the growth of emissions."

GHGs "Avoided" Comparable to Other Industrialized Country Commitments

The President's goal seeks to lower our rate of emissions from an estimated 183 metric tons per million dollars of GDP in 2002, to 151 metric tons per million dollars of GDP in 2012.

Goal cited as comparable to average progress that nations participating in the Kyoto Protocol are required to achieve.

U.S. Anthropogenic Emissions of Greenhouse Gases, 1990-2002

CO_2e 2002 (million metric tons)	6,862.0
Change Compared to 2001 (mmt)	33.2
Change from 2001	*0.5%*
Change Compared to 1990 (mmt)	706.2
Change from 1990	*10.9%*
Avg. Annual Increase, 1990-2002	**0.9%**

Source: EIA/DOE

U.S. Energy-Related CO_2 Emissions Increased in 2003

- U.S. energy-related CO_2 emissions in 2003 were up 0.9 percent from 2002 levels (5,736 to 5,788 mmt CO_2)
- Between 2002 and 2003, energy demand rose 0.6 percent
- High natural gas prices, colder winter

Source: EIA/DOE

Voluntary Approach to Mitigation

CLIMATE VISION… works with industry to identify and pursue cost-effective solutions to reduce emissions using existing technologies; develop tools to calculate and report emission intensity reductions; speed the commercial adoption of advanced technologies; and develop strategies to reduce emissions intensity in other economic sectors.

States Taking Action Can Significantly… Reduce U.S. GHG Emissions

- **CA** (AB1493, RPS, registry)
- **New England** (NEG/ECP)
- **NH** (4-P legislation; registry)
- **MA** (4-P regulation)
- **ME & WI** (registry, mandatory reporting, ME reduction goal)
- **NJ** (Voluntary Climate program)
- **NY** (State Action Plan, call to design of emission trading)

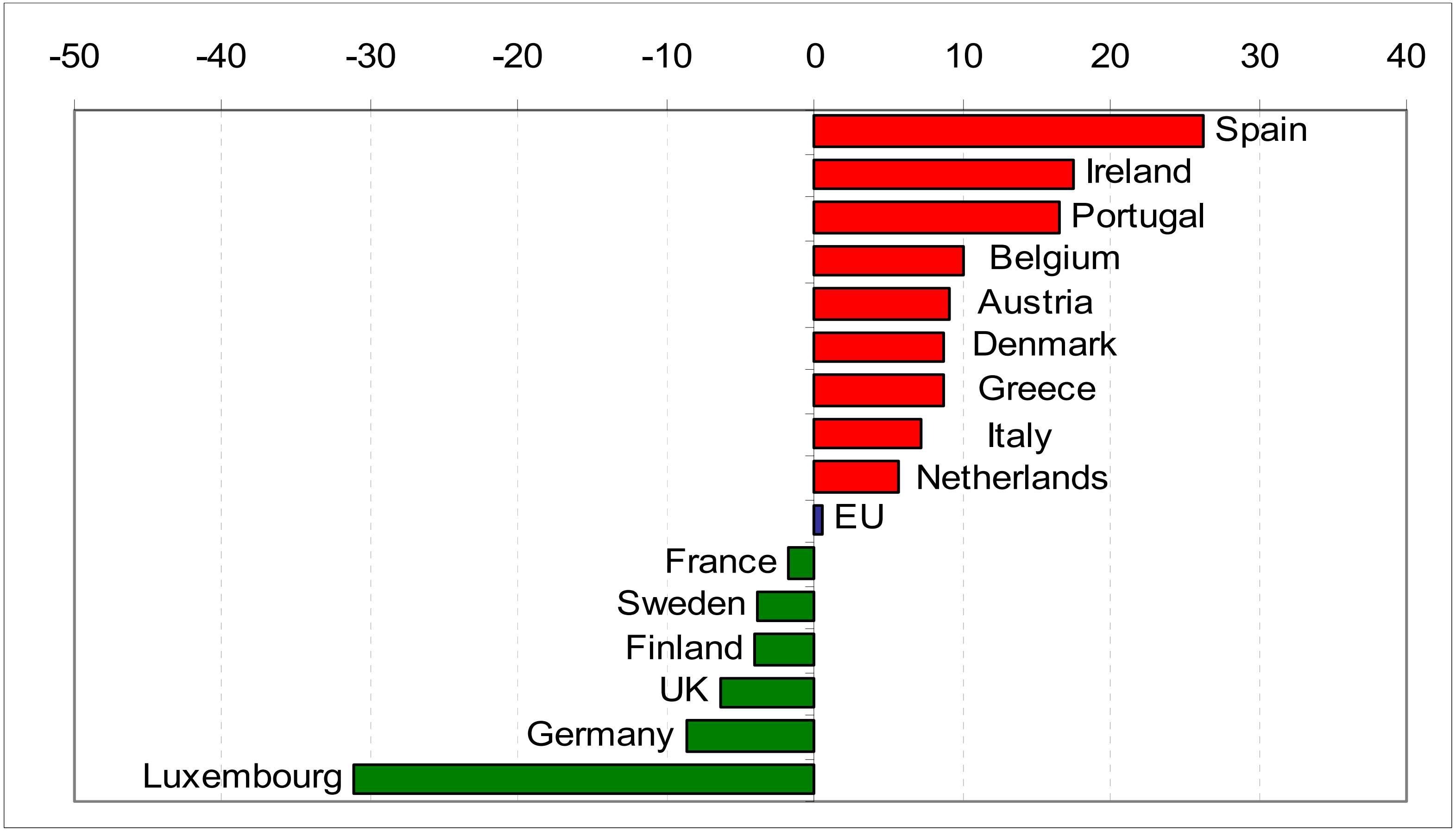
On a national basis, these states represent:

17% of CO_2 emissions
29% of population
31% of U.S. business tax base
38% of GDP

United Kingdom's GHG Reduction Goal

UK's commitment under the Kyoto Protocol is to reduce its greenhouse gas emissions to 12.5% below 1990 levels by 2012. The UK has gone beyond this commitment to set an even more ambitious domestic goal of reducing CO_2 emissions to 20% below 1990 levels by 2010.

EU Progress of Member States



Indicators: Distance from current emissions (2000) level to linear trend line to target

European Union Trading System

- **Starts: January 1, 2005**
- **Timing:** Periods 2005-2007 and 2008-2012
- **Gases:** Direct CO_2 from energy, metals, etc.
- **Coverage:** ~10,000 facilities; 46% of EU CO_2
- **Allocation:** Free allocation with 5% auction
- **Offsets:** Kyoto international offsets allowed
- **Compliance:** 40 - 100 euro/ton penalty

GHG Allocation Done by Member Countries

Compliance Period	Mandatory Free Allocation	Optional Auction
2005-2007	Minimum 95%	Max 5%
2008-2012	Minimum 90%	Max 10%

- Allocation revenue goes to member states
- "Harmonized" National Allocation Plans:
  - One concern is "State Aid" (i.e., subsidizing industries)
  - Allocation must be consistent with EU burden sharing targets for Kyoto bubble, and emissions projections
  - European Commission will review all 25 national plans and can veto

European Union Moves Closer to GHG Trading

The EU executive announced that it has approved <u>eight national plans</u> for allocating emissions for energy-intensive industrial plants, a critical step for establishing a "carbon market" next year.

United Nations Framework Convention on Climate Change (UNFCCC)

- **World's first treaty on global warming**
- **Signed by Pres. George Bush Sr. in 1992**
- **Officially ratified in March of 1994**
- **Signatory countries agreed to return their emissions of CO_2 and other greenhouse gases to 1990 levels**

Kyoto Protocol…A Treaty to Reduce GHGs

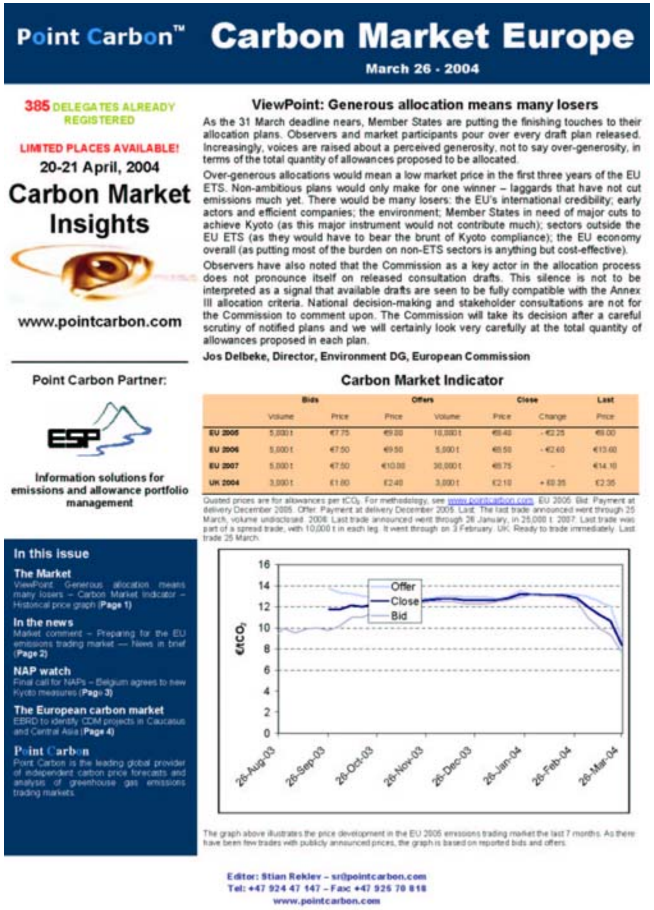
- Needs 55 countries signatory to UNFCCC to ratify (status: 123)
- Needs 55% of Annex I country CO2 emissions in 1990 (status: 44.2%)
- Russia’s 17.4% will enter into force
- U.S.A. agreed to cut GHGs 7% below 1990 levels between 2008-2012

Kyoto Protocol Requires Russia

Russia's President Vladimir Putin announced in May (2004) that his country would...
"rapidly move towards ratification"

"Russia will formally announce its ratification of the Kyoto Protocol during the UNFCCC summit in Buenos Aires in December" (UNEP chief Klaus Töpfer).

The Carbon Market is Growing



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ViewPoint: Generous allocation means many losers

As the 31 March deadline nears, Member States are putting the finishing touches to their allocation plans. Observers and market participants pour over every draft plan released. Increasingly, voices are raised about a perceived generosity, not to say over-generosity, in terms of the total quantity of allowances proposed to be allocated.

Over-generous allocations would mean a low market price in the first three years of the EU ETS. Non-ambitious plans would only make for one winner – laggards that have not cut emissions much yet. There would be many losers: the EU's international credibility; early actors and efficient companies; the environment; Member States in need of major cuts to achieve Kyoto (as this major instrument would not contribute much); sectors outside the EU ETS (as they would have to bear the brunt of Kyoto compliance); the EU economy overall (as putting most of the burden on non-ETS sectors is anything but cost-effective).

Observers have also noted that the Commission as a key actor in the allocation process does not pronounce itself on released consultation drafts. This silence is not to be interpreted as a signal that available drafts are seen to be fully compatible with the Annex III allocation criteria. National decision-making and stakeholder consultations are not for the Commission to comment upon. The Commission will take its decision after a careful scrutiny of notified plans and we will certainly look very carefully at the total quantity of allowances proposed in each plan.

Jos Delbeke, Director, Environment DG, European Commission

Carbon Market Indicator

	Bids		Offers		Close		Last
	Volume	Price	Price	Volume	Price	Change	Price
EU 2005	5,000 t	€7.75	€9.00	10,000 t	€8.40	- €2.25	€9.00
EU 2006	5,000 t	€7.50	€9.50	5,000 t	€8.50	- €2.60	€13.60
EU 2007	5,000 t	€7.50	€10.00	30,000 t	€8.75	-	€14.10
UK 2004	3,000 t	£1.80	£2.40	3,000 t	£2.10	+ £0.35	£2.35

Quoted prices are for allowances per tCO_2. For methodology, see www.pointcarbon.com. EU 2005: Bid: Payment at delivery December 2005. Offer: Payment at delivery December 2005. Last: The last trade announced went through 25 March, volume undisclosed. 2006: Last trade announced went through 26 January, in 25,000 t. 2007: Last trade was part of a spread trade, with 10,000 t in each leg. It went through on 3 February. UK: Ready to trade immediately. Last trade 25 March.

The graph above illustrates the price development in the EU 2005 emissions trading market the last 7 months. As there have been few trades with publicly announced prices, the graph is based on reported bids and offers.

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